

ABSTRACT

The acoustic isolator assembly of the present invention comprises a elongated cylindrical body suited for connection to an acoustic array and subsequent disposition within a wellbore. According to one embodiment of the present invention, the acoustic isolator comprises a plurality of cylindrical isolator modules that are coaxially arranged to form the body of the tool. Each isolator module comprises a spring disposed within an outer housing. The separate isolator modules are attached to one another by connecting rods around which are disposed a plurality of metal spacers. The isolator module further comprises mechanical stops that limit the deflection of the spring during high axial loading. These features enable the acoustic isolator assembly to withstand the high loading that may be applied during logging operations. Therefore, the isolator modules are capable of supporting high compressive and tensile loads without suffering permanent deformation of the springs.